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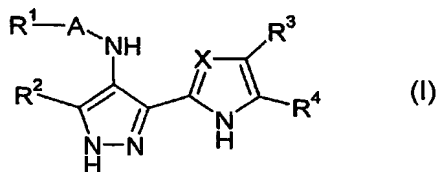
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(54) Title: PHARMACEUTICAL COMPOUNDS



(57) Abstract: The invention provides a compound of the formula (I): or a salt, N-oxide or solvate thereof; wherein X is CR<sup>5</sup> or N; A is a bond or -(CH<sub>2</sub>)<sub>m</sub>-(B)<sub>n</sub>; B is C=O, NR<sup>6</sup>(C=O) or O(C=O) wherein R<sup>6</sup> is hydrogen or C<sub>1-4</sub> hydrocarbyl optionally substituted by hydroxy or C<sub>1-4</sub> alkoxy; m is 0, 1 or 2; n is 0 or 1; R<sup>1</sup> is hydrogen, a carbocyclic or heterocyclic group having from 3 to 12 ring members, or an optionally substituted C<sub>1-8</sub> hydrocarbyl group; R<sup>2</sup> is hydrogen, halogen, methoxy, or a C<sub>1-4</sub> hydrocarbyl group optionally substituted by halogen, hydroxyl or methoxy; R<sup>3</sup> and R<sup>4</sup> are the same or different and each is selected from hydrogen, CN, C(O)R<sup>8</sup>, optionally substituted C<sub>1-8</sub> hydrocarbyl and carbocyclic or heterocyclic groups having from 3 to 12 ring members; and R<sup>5</sup> is hydrogen, a group R<sup>2</sup> or a group R<sup>10</sup> wherein R<sup>10</sup> is selected from halogen, hydroxy, trifluoromethyl, cyano, nitro, carboxy, amino, mono- or di-C<sub>1-4</sub> hydrocarbyl amino, carbocyclic and heterocyclic groups having from 3 to 12 ring members; a group R<sup>a</sup>-R<sup>b</sup> wherein R<sup>a</sup> is a bond, 0, CO, X<sup>1</sup>C(X<sup>2</sup>), C(X<sup>2</sup>)X<sup>1</sup>, X<sup>1</sup>C(X<sup>2</sup>)X<sup>1</sup>, S, SO, SO<sub>2</sub>, NR<sup>c</sup>, SO<sub>2</sub>NR<sup>c</sup> or NR<sup>c</sup>SO<sub>2</sub>; and R<sup>b</sup> is selected from hydrogen, carbocyclic and heterocyclic groups having from 3 to 12 ring members, and a C<sub>1-8</sub> hydrocarbyl group optionally substituted by one or more substituents selected from hydroxy, oxo, halogen, cyano, nitro, carboxy, amino, mono- or di-C<sub>1-4</sub> hydrocarbylamino, carbocyclic and heterocyclic groups having from 3 to 12 ring members and wherein one or more carbon atoms of the C<sub>1-8</sub> hydrocarbyl group may optionally be replaced by O, S, SO, SO<sub>2</sub>, NR<sup>c</sup>, X<sup>1</sup>C(X<sup>2</sup>), C(X<sup>2</sup>)X<sup>1</sup> or X<sup>1</sup>C(X<sup>2</sup>)X<sup>1</sup>; R<sup>c</sup> is selected from hydrogen and C<sub>1-4</sub> hydrocarbyl; X<sup>1</sup> is O, S or NR<sup>c</sup> and X<sup>2</sup> is =O, =S or =NR<sup>c</sup>; and R<sup>8</sup> is selected from OR<sup>11</sup>, SR<sup>11</sup> and NR<sup>12</sup>R<sup>13</sup>; R<sup>11</sup> is selected from optionally substituted C<sub>1-8</sub> hydrocarbyl and carbocyclic or heterocyclic groups having from 3 to 12 ring members; and one of R<sup>12</sup> and R<sup>13</sup> is a group R<sup>11</sup> and the other of R<sup>12</sup> and R<sup>13</sup> is hydrogen or C<sub>1-4</sub> alkyl; or R<sup>12</sup> and R<sup>13</sup> and the nitrogen atom to which they are attached together form a saturated heterocyclic group having from 4 to 7 ring members and containing 1,2 or 3 heteroatom ring members selected from N, O and S. The compounds have activity against cyclin dependent kinases glycogen synthase kinase and Aurora kinases.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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